

A
C A S E
OF
P E R I C A R D I T I S .

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A. B. aged five, had cough in June 1834, which was thought to resemble hooping-cough. This was very slight, and I was not requested to see him. Towards the latter part of the month he suddenly fell lame of the left knee. This was ascribed by his parents to a sprain, from a fall during exertion in play. I was requested to examine his knee. There was neither swelling, nor increased pain on pressure. Care was taken in walking to favor this limb, and when he stopped walking he invariably rested the left foot on the instep of the right, as patients acquire the habit of doing in those chronic affections of the joints in which stiffness exists, or in which a difference in length in the limbs is produced. Just before this affection of the knee, a very slight attack of something resembling incipient fever was noticed. A mild cathartic, abstinence, and rest, were followed in a day or two by relief. Before the first of July the knee was well, or no complaint was made of it, or lameness noticed. I was desired to see him the 4th, of July, as he seemed less well than usual, though no particu-

lar complaint was made. I found him still with cough, though this was not severe. He was unquiet, with variable spirits, and a less healthful aspect than when I last saw him. His pulse was quicker than in health, but not more so than could be explained by his constant activity, and the debility, though slight, which had followed his previous confinement on account of lameness.

It had been arranged by his family to leave the city for the remainder of the summer, and it being their purpose to leave on the 4th, I advised they should do so, as the country offered in its healthful air, and freedom from causes of excitement, the best opportunities for the completion of the convalescence which seemed to be making progress. He therefore left town on the 4th, which was Friday.

Early the Sunday following, July 6th, I was requested to visit him, being at the same time informed by note that he had the previous night, or rather at three in the morning, been taken more severely ill than at any time since he had manifested any appearance of disease. I should have said that the drive to the country had not annoyed him in the least, and that he had passed Saturday with unusual freedom from all unpleasant feelings or marks of disease. On my arrival I learnt that at three in the morning he had been restless, with great heat of the skin, more cough, and marks of general distress. His greatest trouble was referred to the lower part of the chest, though there was a decided extension of uneasiness or pain complained of across the upper part of the abdomen. A fact of some interest in connection with this latter difficulty was now stated. I was told that it had been a very common thing, almost of daily occurrence with my patient, to complain of pain in some part of the abdomen, especially after eating. His pain was of short duration, and generally went off suddenly. It had been noticed by his parents for a year or two.

I found the patient relieved from some of the earliest symptoms with which he had been seized, but was still somewhat feverish — his countenance was pale and languid, — his pulse rapid, — the skin hot and dry, — his tongue slightly furred. Occasional dry cough. As my patient, was some miles from town, and now threatened with severe disease, I advised his immediate return to the city. The arrangements for this were soon made, and about noon he reached home. I now examined the chest with much care. By auscultation the respiratory murmur was heard over all parts of the chest, it was louder than natural, and without rale. Percussion gave a

healthful sound every where, except over the region of the heart. Here was some flatness, but the murmur of respiration was sufficiently audible, in the whole neighborhood of the heart. The treatment directed consisted in a solution of tartarized antimony in such doses as the stomach would bear, at intervals of from three to four hours, — an alterative pill of submuriate of mercury, opium, and antimony at bed-time, mild laxatives, and demulcent drinks, with liquid farinaceous diet. Under this course the symptoms subsided. There were, however, attacks of pain referred to various parts of the trunk of the body, but more frequently than elsewhere to the epigastrium and a little below it, corresponding to the place of the arch of the colon. Sometimes this so nearly resembled the trouble produced by flatus, or other causes of annoyance in the large intestines that emollient enemata were used, and not unfrequently with relief. Sometimes the pain would as suddenly disappear as it came, and before anything was exhibited. Frequently relief followed the extensive application of a camphor embrocation to the chest and abdomen, and in the course of the disease this remedy was frequently called for by the patient, and became a very favorite application with him.

The amendment was gradual and seemed to promise to be permanent. This was, however, not the case, for an increase of symptoms gradually took place marked by some new phenomena. This was about the 12th of the month. The new symptoms were increased flatness on percussion about the region of the heart, — increased frequency, with a diminished force of the circulation, — dyspnoea, or rather short and panting breathing, of uncertain continuance at any time, and almost always produced by moral causes, though these last might be slight, a dry cough, and this rare, and without pain. Auscultation discovered no difference in respiration from what was noticed on the examination of the sixth. Over the portion of the chest in which percussion gave a flat sound, bellows sound was not perceived in the slightest degree; the action of the heart was found to be strong, but not irregular, and no pain was complained of in its region. Along with this aggravation of the disease the pains before-mentioned, as occurring in the trunk in various parts returned; they however, were still referred to their former seats.

The case thus far described had from its commencement been obscure. There were symptoms, both local and general, quite grave enough to explain the enfeebled condition of the

patient, but he had in a short time risen from much that seemed to be their natural effects, and without known cause was again ill, with symptoms more serious than at any other time of the complaint. The new phenomena shed much light on the pathology of the case. I had never lost sight of the affection of the knee before-mentioned. I had never been satisfied that its explanation by the parents was the true one, and I could not but remember that it was upon the disappearance of the pain in that joint that symptoms, apparently very trifling, were soon developed, and that the gravest of these now present were little other than an exaggeration of the earliest movements of the disease. The state of the patients mind was quite striking. Naturally very intelligent, he seemed to have suddenly acquired extraordinary acuteness, weighing everything that was said with great care, to be sure that he understood its full amount. His senses were exceedingly acute, especially his hearing, which frequently produced no small embarrassment. He manifested an unusual antipathy to everything in the nature of medicine, and an accidental allusion to the subject, however slight, always produced more or less alteration in breathing and in the action of the heart. This, at times, amounted to a paroxysm of extreme distress, making it questionable if these might not do more of harm by their temporary aggravations of symptoms, than medicines would of good by any present or more permanent operation. From all these circumstances both moral and physical, presented by this case, the diagnosis was cleared of obscurity. I believed the disease to be pericarditis, that it was rheumatic, and that it was closely related with the affection of the knee which had so distinctly preceded it.

The treatment adopted under these circumstances consisted in the application of leeches to the left chest, counter-irritants afterwards, colchicum, and a laxative; quieting mixture of magnesia and assafoetida at bed-time and in the night, as might be indicated. Under this treatment very marked relief took place. It was greater than after the first attack. He slept well at night, and was happy in the day; his pulse fell to nearly or quite their natural standard, — about eighty beats in the minute; the breathing became calm; the flatness over and about the heart diminished; the bowels were regular; and some desire for food was manifested. I found him in his chair on the 17th, cutting pieces of wood, a favorite occupation; drawing on his slate, and his whole countenance and manner

showing from how much of a very heavy weight his system had been relieved, and how happy it made him to express in a variety of ways his sense of relief. 'I feel very well to-day, Doctor,' was his cheerful greeting of me at my morning visit. During my examination, I asked him to step out of his chair and walk to a bureau which was within a step or two. This he did, and returned to his chair without any other mark of disease than the apparent weakness which a fortnight's illness might be expected to produce. I left him with easier feelings than after any previous visit, and indulged strong expectation that any farther active measures, would be wholly unnecessary. It hardly seemed necessary to continue farther medical attendance.

I was called at noon to see my patient. He had been suddenly seized at that time with a paroxysm more distressing than either of the others. His distress was universal. His breathing, seventy respirations in the minute, was accompanied by a grunt, a groan, or a shrill cry, occasionally accompanied by a short quick cough. The pulse was 160 in the minute; the skin pale, dry, but not strikingly hot. He lay on his back, shoulders but little elevated, with the feet drawn up, and thighs strongly bent on the trunk. Respiratory murmur heard everywhere, loud as before; beating of heart strong and heard in the right chest. Dulness on percussion as before. My friend, Dr Bigelow, saw him in the course of this paroxysm, and continued in occasional attendance during the remainder of the patient's life. Leeches were directed about the heart, and such other means as promised relief from present and extreme distress. Partial relief only was procured until the middle of the second day from the attack. On the 18th it was perceived that swelling had taken place extending from between the second and fifth ribs, the swelling being most obvious at its upper part. Percussion discovered increased flatness about the region of the heart. Its extent was very easily made out. Its limit in front was the middle of the sternum; from above, downward, it extended from the space between the second and third rib to beyond the sixth; laterally, it spread but little beyond a line drawn from above, downwards, in the direction of and near to the left side of the heart. Everywhere else the chest resounded well, and the respiratory murmur was fully heard. It should be added here, that such was the distress produced by the least motion, that the patient was never moved unless it was very important that he should be. This circumstance has not been mentioned

before, but it was so striking that it deserves a distinct place in the history. It was not that the limbs were in any way affected as by rheumatism, nor was it owing to the ordinary soreness or tenderness of the surface from severe previous disease, or from long lying in the same position; distress; hurried respiration; a cough, or cry; increased rapidity of pulse; these were among the effects of even slight motion. All this prevented any sufficient examination of the back, to ascertain how far morbid changes had taken place in other portions of the thoracic viscera than those which allowed of easy investigation laterally and in front. But both sides resounded so well, and the breathing was heard so distinctly in both these regions that it was not thought that important disease existed elsewhere, or that it was desirable to distress the patient by examinations which were not likely to lead to any useful practical results.

After this attack the system never rallied as completely as before. The appetite for a time failed entirely. So little was the thirst and desire for food, that for one twentyfour hours, not more than an ounce was swallowed, of cold water, and this not from desire of the patient, but at the intreaties of the attendants. The flesh rapidly disappeared; languor more or less strongly marked was present. Respiration was more easily affected, at times louder cough than at any other time occurred, with either the sound of mucus in the air passages, or that which accompanies the relaxed state of the vocal organs, which not unfrequently is ascribed to loose mucus in those passages. The bowels were easily moved by mild enemata, and the discharges were not morbid. The urine was small in quantity at times, but frequently not naturally altered from healthy. The suffering in the upper part of the abdomen, and in the last days of life in the hypogastric region, and distress under the sternum continued to harass the patient, though for some hours he would be perfectly free from these troubles. The skin underwent change. He became exceedingly white, of a marble whiteness, — œdema took place in the face, particularly in the cheeks, — not excessive, but the face had the fulness which would accompany an increase of flesh after disease, — slight œdema occurred in the feet, more remarkably in the spaces between the instep and toes. Wherever this existed the whiteness was most declared. The expression of the countenance was rarely much altered from health, perhaps never in the degree observed by writers on acute pericarditis.

It was said that after the last paroxysm there was obvious

fulness in the upper part of the left chest. This did not continue, or was certainly less noticeable on the third day from its first appearance, I thought that there was less flatness on percussion in the upper part of the chest here than before the swelling, but what was very certain at the same time was, that this flatness could now be distinctly felt in the right chest, it extended, in other words, across the sternum, into the right side, and almost as far in every direction there as it had ever existed in the left. With this extent of flatness there was not a corresponding increase of symptoms. There was on the contrary much relief from some of them. Thus the pulse fell from one hundred and sixty, to one hundred and sixteen or twenty; the respirations to forty, to thirty, and at length when the patient was perfectly tranquil, the number was not much above health. But he was still entirely without appetite, — at times his distress was as great as ever — his nights, though he might sleep, were distressing; his sleep short, and generally accompanied with groaning or a distinct forcing grunt. He would breathe in this way, and with great and increasing rapidity, and at length awake from sleep as if awakened by the effort and distress which breathing required or produced.

In the last week in July, appetite returned, and it soon became very strong, producing much trouble as it would not have been safe under any circumstances, even of fair convalescence to have fully satisfied it. Food was, however, allowed. Rice with the red gravy of roast beef was a favorite at first and continued so even when meat was strongly demanded. Meat was at length given, and such other articles as would not obviously injure by their quantity or quality. There was no desire for fruit, even peaches and grapes of the finest kinds were hardly noticed, and were never allowed to take the place of more substantial food. Emaciation went on, the dejections were perfectly natural and abundant. I could not but think that suppuration had taken place in some organ. I said so to the friends. But with the single exception of the voraciousness of appetite, there was no symptom present of the existence of such a process. There were neither chills, heats, nor sweats, — the countenance had not the appearance of such lesion as attends suppuration, — there was no diarrhoea, nor no remarkable frequency of pulse. There existed, however, the same pathological state of the organs within the chest as had marked the case from the last paroxysm, the same evidence, and this increasing, of pericarditis with effusion within the pericardium.

This patient died on the 5th of August. About a week before his death, I noticed a remarkable change in the appearance of the tongue. This had never discovered anything strikingly morbid. It had, on the contrary, been very uniformly clean and moist. If coated at any time, this seemed to be an accidental thing, for the coat soon disappeared. But at the time referred to, on examining the tongue, I was surprised to find that it was quite black over its whole surface. It looked, as one said, as if he had been swallowing charcoal powder. This perfect blackness did not continue to the end of life, but was always present more or less, and where it was wanting, a brown, dark brown color had taken its place. There was no marked change in the symptoms accompanying this state of tongue. He gradually failed, respiration becoming more and more difficult, the pulse increasing in frequency,—the strength failing. The stomach and bowels continued to perform their functions as in health. The appetite was as craving, and more so than when it first occurred. The sleep became very distressing with the night symptoms already given. There was no increase of œdema. That of the face was less than when first noticed. A very common action with him was to raise the arms along the sides of the head, and to clasp the hands above it. He always, or almost always lay on his back, and never required his shoulders or head to be much raised, a single pillow or two thin ones being all he desired.

I was called to see him on the morning of the 5th, at an earlier hour than customary for some days. I found him on a long chair to which he had been occasionally removed, his countenance altered, sunken,—his eyes and mouth open, breathing with much difficulty,—his skin was cold and damp, and pulse scarcely perceptible. I asked how long since these changes had taken place, and learnt that it was but a few minutes only. He was obviously in much distress, but too feeble to give to it full expression. His mind was perfectly clear, and his senses had all the acuteness which had marked his disease. He spoke to me frequently, said he was very faint, and this was many times repeated. He would rise with much apparent force, bend his head and body forward, and stretch forth his hands. These motions were often repeated. I saw him several times in the morning, and found him at each time more sunken, and at about eleven in the morning he died, with no apparent increase of distress. The countenance immediately after death assumed the sweetest expression of his

ordinary health. This return of the countenance to the natural and healthful, soon after death, from acute disease, especially when accompanied by much suffering, has been often observed, but in this case it was so striking that I have thought it worthy notice.

Post mortem appearances. Thorax. The body was examined in the afternoon of the day on which he died. Percussion was followed by the same sounds as during life. The body was everywhere of the same marble whiteness; no increase of oedema was noticed. The sternum being raised the pericardium presented itself filling both sides of the chest as far as this could be seen, and entirely covering and shutting back the lungs. The appearance of the pericardium was that of a dense, opaque membrane, in parts of it the texture looked white, shining, very exactly resembling a fascia. It felt thick and firm, and being tapped upon by the finger the undulation of fluid was very apparent. As it was determined to take out the organs of the chest entire, the abdomen was opened, and a pint of a light yellow serum removed. The diaphragm was now separated from all its adhesions, the blood vessels and œsophagus divided, and the lungs, heart, and costal pleura carefully raised without the least wound to the organs or pericardium. The trachea and œsophagus were then divided. It was found that the left lower lobe of the lungs was spread over in a very thin layer, and adherent to the pericardium, about half way over. Before opening the pericardium, its size was carefully ascertained, and found to be in its greatest circumference thirteen inches and ten lines; measured as it lay in the chest before removal, the extent of surface which presented on removing the sternum, with the cartilages of the ribs was across just seven inches. The pericardium was next opened, and twelve ounces of dense, heavy pus at once escaped. The pericardium was found preternaturally red, thickened, and lined with a light greenish yellow colored lymph, from two to three lines in thickness. This was gelatinous in its texture, but sufficiently firm to preserve its shape and connections with the pericardium. The heart was covered with a similar incrustation of lymph, somewhat irregular on its surface; this was owing probably to the contraction of the heart. It adhered firmly to the heart. Upon examining the ventricles the left was found much larger, and firmer, and thicker than the right, and very closely contracted. The heart was everywhere very pale in its texture, and contained but little blood.

The lungs were but slightly altered from health. The right lobes were healthful, perfectly so. There was a small adhesion of the back part of the upper right lobe to the ribs. The lower lobe of the left lung was hepatized in a portion at its posterior part. At least its cut surfaces were perfectly smooth. It was firmer here than in health, and contained no air. Slight œdema was noticed in both lobes of this side. The anterior portion of the left lower lobe adhered to the pericardium as before related. This was very thin, being expanded over the sac. The lungs were very small, compressed into a very narrow compass by the distended pericardium. But except the portion of the left lower lobe and the œdema above-named, these organs were healthful. They were examined with much care that it might be ascertained if tubercles existed; but none were found. They were remarkably free from the post mortuary congestions in their lowest portions, which are so commonly noticed, and which may sometimes pass for disease, where symptoms have given us reason to suspect it, but of which no other mark is discovered on dissection.

Abdomen. A pint of straw colored fluid, it was said, was taken from the abdomen, at the beginning of the examination. Other effects of disease were subsequently found. Much lymph, similar to that which lined the loose pericardium, was found in and about the pelvis, more especially about the cœcum, by which this gut was slightly glued to the surrounding peritoneum. Its attachment was very slight to the parts upon which it was effused, and the peritoneum itself here was not noticeably altered from its ordinary healthful, smooth, translucent condition. The intestines were healthful, and contained very little fœcal matter. The kidneys were large. The liver showed much disease. The change from its natural condition consisted in extreme hardness, increased size, its peritoneal covering being opaque, and in spots thickened, and of a fascia-like firmness. The spleen was natural, but the pancreas was large, and of a hardness which, when the knife passed through it, was semi-cartilaginous. The peritoneum everywhere, with the exceptions above given, presented its most healthful aspect, and there was nowhere either in the mesentery, nor intestines any marks of disease. The effusion was obviously recent, and had taken place a few days before death. It should have been remarked that much fulness of the abdomen marked its occurrence.

The above history is a long one. It was preferred to give it in a general way, that the more important points should

have a distinct notice, rather than after the more common manner of a daily record of events. This case had for me interests aside from, or additional to, those which are strictly professional. I saw the patient very often and carefully noted all the circumstances which were presented. It has been seen that it was marked by three periods, two of them very distinct. These were so many paroxysms, with remarkable intermission of the symptoms: after the second paroxysm the relief was so great, the symptoms so much wanting, that it almost seemed that convalescence was taking place. The appearances, on dissection, confirm the diagnosis, and explain all the symptoms. Percussion discovered flatness about the heart; then there was circumscribed fulness; next, a disappearance of this fulness, with an extension of flatness across the sternum into, and at length over, the greater part of the right side. The breathing, its difficulty, its characters by auscultation, are also explained. The lungs were greatly compressed. The effort to overcome this characterised the breathing in a remarkable manner. It was a distinct forcing effort — a grunt — such as so commonly marks in children attempts to evacuate the bowels when costiveness exists. The sounds were transmitted by the distended pericardium. The swelling of the abdomen, and the pains there, especially in the last days of life, are explained by the effusions discovered after death, and by the morbid processes which produced them.

A question may arise, if so slight an affection of the knee, if rheumatic, (as has been supposed,) could have produced so grave and distinctive a disease of the pericardium as above described? It was slight, but sufficiently severe to render the patient lame, and to impose upon him partial rest for some days. It disappeared perfectly, and without the occurrence of pain in any other joint. Upon this ceasing of lameness, however, did the other troubles of the patient arise. The identity of the affection of the pericardium with that which at times is produced by or along with rheumatism, may be inferred by a striking fact in our history, viz., the recurrence of the disease in paroxysms, after intervals of remarkable freedom from symptoms. To be sure, this absence of cardiac symptoms was not accompanied by the appearance of the disease elsewhere, as in the joints. But this does not necessarily happen in the unequivocal disease. It has been observed that the succeeding paroxysms are rarely, if ever so severe, as the earliest. They generally grow milder and milder, we are

told, with increasing intervals, until they disappear entirely. This was not, in any sense, true in the above case. The intervals were indeed short, but in one of more than a week's continuance, the marks of amendment were the most satisfactory, and still the succeeding paroxysm was the severest. Finally, pericarditis does not seem to have its violence or danger determined by the severity of the rheumatism which may have preceded it; the mildest forms having been accompanied or followed by as severe cardiac disease as the most violent.

This article has extended too far already to be lengthened by the recital of other cases. But I may add that I have not seen pericarditis before at so early an age. Two years ago a case came under my care, in a delicate female, about twelve years of age. This patient was in the first place seized early in the winter with common inflammatory rheumatism, rheumatic fever, so called, in its severest forms. I do not recollect a case in which the affection of the limbs, and all of them, was so distressing, or so violent. Every characteristic of the disease was present. Such was the irritability of the intestinal mucous tissue, that the smallest doses of the remedies most depended on in acute rheumatism, produced the greatest distress. This was especially true of colchicum, calomel, and antimony, in all modes of exhibiting them. Griping, diarrhœa, bloody and mucous dejections were produced by them, however cautiously employed, and however combined with opium, &c, to diminish these effects. They were at length laid aside, and opium alone trusted to. The vinegar of opium was exceedingly grateful in its effects. Months passed before recovery. Pericarditis occurred during this attack, with its usual symptoms. She went to the sea-shore early in the next summer to recruit. Here she was again attacked with rheumatism, much less severe than in the first seizure, and during this, pericarditis soon became the leading disease. The rheumatism troubled her in a mild degree of it, for some weeks; the cardiac disease has yielded, gradually, to remedies and time; and now, at the end of nearly two years, she is very little annoyed by it, or rather by its effects. She walks freely, as much as three miles at a time without dyspnœa, or increased palpitation, and seems perfectly well. A dry, harassing cough accompanied the disease during almost all its active periods. In this case the dulness on percussion was very extensive, with an obvious enlargement of the left side, and the bellows murmur was unusually loud, and uninterrupted.